

(12) United States Patent

Andino et al.

(54) APPARATUS AND METHODS FOR OCULAR INJECTION

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ABSTRACT (57)

An apparatus includes a housing coupled to a medicament container, which is coupled to a needle. An injection assembly is disposed within the housing and includes an energy storage member and an actuation rod. A distal end portion of the actuation rod is disposed within the medicament container. The energy storage member can produce a force on a proximal end portion of the actuation rod sufficient to move the distal end portion of the actuation rod within the medicament container. This can convey at least a portion of a substance from the medicament container via the needle when a distal tip of the needle is disposed within a first region of a target location. The force is insufficient to move the distal end portion of the actuation rod within the medicament container when the distal tip of the needle is disposed within a second region of the target location.

30 Claims, 95 Drawing Sheets

